

SEQUENCE LISTING

<110> Stephen M. Allen
Elmer P. Heppard
Guo-Hua Miao
Zude Weng

<120> Plant Catabolite Repression Genes

<130> BB1316

<140> 09/857,525

<141>

<150> 60/112,564

<151> 1998-12-16

<160> 22

<170> Microsoft Office 97

<210> 1

<211> 1576

<212> DNA

<213> Zea mays

<400> 1

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<211> 451

<212> PRT

<213> Zea mays

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Phe	Val	Asp	Gly	Glu	Trp	Arg	His	Asp	Glu	Arg	Gln	Pro	Thr	Ile	Ser
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Pro	Val	Lys	Gln	Ser	Phe	His	Ile	Leu	His	Glu	Gln	Gly	Ile	Pro	Val
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Ala	Pro	Leu	Trp	Asp	Ser	Phe	Arg	Gly	Gln	Phe	Val	Gly	Leu	Leu	Ser
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Asn	Leu	Thr	Glu	Glu	Gln	Leu	Glu	Thr	His	Thr	Ile	Ser	Ala	Trp	Lys
		195					200					205			
Glu	Ala	Lys	Arg	Gln	Thr	Asn	Gly	Arg	Asn	Asp	Ser	Gln	Trp	Arg	Pro
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Gln	Gln	His	Leu	Val	His	Ala	Thr	Pro	Tyr	Glu	Ser	Leu	Arg	Asp	Ile
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Ala	Val	Lys	Leu	Leu	Gln	Asn	Gly	Ile	Ser	Thr	Val	Pro	Val	Ile	Tyr
				245					250					255	
Ser	Ser	Ser	Ser	Asp	Gly	Ser	Phe	Pro	Gln	Leu	Leu	His	Leu	Ala	Ser
				260				265					270		
Leu	Ser	Gly	Ile	Leu	Lys	Cys	Ile	Cys	Arg	Tyr	Phe	Lys	Asn	Ser	Thr
		275					280					285			
Gly	Asn	Leu	Pro	Ile	Leu	Asn	Gln	Pro	Val	Cys	Ser	Ile	Pro	Leu	Gly
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Ser	Trp	Val	Pro	Lys	Ile	Gly	Asp	Leu	Asn	Ser	Arg	Pro	Leu	Ala	Met
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Leu Arg Pro Asn Ala Ser Leu Ser Ser Ala Leu Asn Met Leu Val Gln
 325 330 335
 Ala Gly Val Ser Ser Ile Pro Ile Val Asp Asp Asn Asp Ser Leu Leu
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 Asp Thr Tyr Ser Arg Ser Asp Ile Thr Ala Leu Ala Lys Asp Lys Val
 355 360 365
 Tyr Thr His Val Arg Leu Asp Glu Met Thr Ile His Gln Ala Leu Gln
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 Leu Gly Gln Asp Ala Asn Thr Pro Phe Gly Phe Phe Asn Gly Gln Arg
 385 390 395 400
 Cys Gln Met Cys Leu Arg Ser Asp Pro Leu Leu Lys Val Met Glu Arg
 405 410 415
 Leu Ala Asn Pro Gly Val Arg Arg Val Phe Ile Val Glu Ala Gly Ser
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<210> 3
 <211> 2149
 <212> DNA
 <213> Oryza sativa

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<210> 4

<211> 493

<212> PRT

<213> *Oryza sativa*

<400> 4

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Thr Gly Ala Ser Gly Val Pro Thr Arg Phe Val Trp Pro Tyr Gly Gly
      20             25             30

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```

Lys Arg Val Tyr Leu Thr Gly Ser Phe Thr Arg Trp Thr Glu His Leu
      35             40             45

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```

Pro Met Ser Pro Val Glu Gly Cys Pro Thr Val Phe Gln Ala Ile Cys
      50             55             60

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```

Ser Leu Ser Pro Gly Ile His Gln Tyr Lys Phe Cys Val Asp Gly Glu
      65             70             75             80

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```

Trp Arg His Asp Glu Arg Gln Pro Thr Ile Thr Gly Asp Tyr Gly Val
      85             90             95

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Val Asn Thr Leu Cys Leu Thr Arg Asp Phe Asp Gln Ile Asn Thr Ile
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```

Leu Ser Pro Ser Thr Pro Gly Ser Arg Met Asn Met Asp Val Asp Asn
      115            120            125

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Asp Asn Phe Gln Arg Thr Val Ser Leu Ser Asp Gly Ile Ile Gln Glu
      130            135            140

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```

Gly Pro Gln Arg Ile Ser Glu Ala Ala Ile Gln Ile Ser Arg Cys Arg
      145            150            155            160

```

```

Val Ala Asp Phe Leu Asn Gly Gln Thr Gly Tyr Asp Leu Leu Pro Asp
      165            170            175

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```

Ser Gly Lys Val Ile Ala Leu Asp Val Asn Leu Pro Val Lys Gln Ser
      180            185            190

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```

Phe His Ile Leu His Glu Gln Gly Ile Pro Val Ala Pro Leu Trp Asp
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Ser Phe Arg Gly Gln Phe Val Gly Leu Leu Ser Pro Leu Asp Phe Ile
      210            215            220

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Leu Ile Leu Arg Glu Leu Glu Thr His Gly Ser Asn Leu Thr Glu Glu

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Thr	Tyr	Ala	Arg	Asn	Glu	Gly	Ser	Trp	Arg	Ala	Asn	His	His	Leu	Val
			260					265					270		
His	Ala	Thr	Pro	Tyr	Glu	Ser	Leu	Arg	Glu	Ile	Ala	Met	Lys	Ile	Leu
		275					280					285			
Gln	Asn	Gly	Val	Ser	Thr	Val	Pro	Ile	Met	Phe	Ser	Ser	Ser	Pro	Asp
	290					295					300				
Gly	Ser	Tyr	Pro	Gln	Leu	Leu	His	Leu	Ala	Ser	Leu	Ser	Gly	Ile	Leu
305					310					315					320
Lys	Cys	Ile	Cys	Arg	Tyr	Phe	Lys	Asn	Ser	Gln	Gly	Asn	Leu	Pro	Ile
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Leu	Ser	Gln	Pro	Val	Cys	Thr	Ile	Pro	Leu	Gly	Thr	Trp	Val	Pro	Lys
		340						345					350		
Ile	Gly	Asp	Pro	Asn	Gly	Arg	Pro	Leu	Ala	Met	Leu	Arg	Pro	Asn	Thr
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Ser	Leu	Ser	Ala	Ala	Leu	Asn	Leu	Leu	Val	Gln	Ala	Gly	Val	Ser	Ser
	370					375					380				
Ile	Pro	Ile	Val	Asp	Asp	Asn	Asp	Ser	Leu	Leu	Asp	Thr	Tyr	Ser	Arg
385					390					395					400
Ser	Asp	Ile	Thr	Ala	Leu	Ala	Lys	Asp	Lys	Val	Tyr	Thr	His	Ile	Arg
				405					410					415	
Leu	Asp	Glu	Met	Thr	Ile	His	Gln	Ala	Leu	Gln	Leu	Gly	Gln	Asp	Ala
		420					425						430		
Asn	Ser	Pro	Phe	Gly	Phe	Phe	Asn	Gly	Gln	Arg	Cys	Gln	Met	Cys	Leu
		435					440					445			
Arg	Ser	Asp	Thr	Leu	Leu	Lys	Val	Met	Glu	Arg	Leu	Ala	Asn	Pro	Gly
	450					455					460				
Val	Arg	Arg	Val	Phe	Ile	Val	Glu	Ala	Gly	Ser	Lys	Arg	Val	Glu	Gly
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<210> 5

<211> 702

<212> DNA

<213> Oryza sativa

<400> 5

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aaaaccagat tgtcagtatg cctattggta catggtcacc acatactggc aaggcaagca 180
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<210> 6
 <211> 189
 <212> PRT
 <213> Oryza sativa

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 20 25 30
 Pro Glu Gly Tyr Ser Phe Leu Gln Asn Gln Ile Val Ser Met Pro Ile
 35 40 45
 Gly Thr Trp Ser Pro His Thr Gly Lys Ala Ser Asn Arg Gln Leu Arg
 50 55 60
 Thr Ser Arg Pro Ser Thr Pro Leu Asn Ser Cys Leu Asp Leu Leu Leu
 65 70 75 80
 Glu Asp Arg Val Ser Ser Ile Pro Ile Val Asp Asp Asn Gly Ala Leu
 85 90 95
 Leu Asp Val Tyr Ser Leu Ser Asp Ile Met Ala Leu Gly Lys Asn Asp
 100 105 110
 Val Tyr Thr Arg Ile Glu Leu Glu Gln Val Thr Val Glu His Ala Leu
 115 120 125
 Glu Leu Gln Tyr Gln Val Asn Gly Arg Arg His Cys His Thr Cys Leu
 130 135 140
 Ser Thr Ser Thr Phe Leu Glu Val Leu Glu Gln Leu Ser Ala Pro Gly
 145 150 155 160
 Val Arg Arg Val Val Val Ile Glu Pro Arg Ser Arg Phe Val Gln Gly
 165 170 175
 Ile Ile Ser Leu Arg Asp Ala Phe Thr Phe Leu Ile Gly
 180 185

<210> 7
 <211> 2160
 <212> DNA
 <213> Glycine max

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 atgatgcgat gagatgatgt tctatgaggg tattctcagt gtaacactct gaatttgaag 180

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<211> 482

<212> PRT

<213> Glycine max

<400> 8

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		20						25					30		

Ser	Val	Tyr	Leu	Ser	Gly	Ser	Phe	Thr	Arg	Trp	Ser	Glu	Leu	Leu	Gln
		35					40					45			

Met	Ser	Pro	Val	Glu	Gly	Cys	Pro	Thr	Val	Phe	Gln	Val	Ile	His	Ser
	50					55					60				

Leu	Val	Pro	Gly	His	His	Gln	Tyr	Lys	Phe	Phe	Val	Asp	Gly	Glu	Trp
65					70					75				80	

Arg	His	Asp	Asp	Leu	Gln	Pro	Cys	Glu	Ser	Gly	Glu	Tyr	Gly	Ile	Val
				85					90					95	

Asn	Thr	Val	Ser	Leu	Ala	Thr	Asp	Pro	Asn	Ile	Leu	Pro	Val	Leu	Thr
		100						105					110		

Pro Asp Ile Val Ser Gly Ser Asn Met Asp Val Asp Asn Glu Ala Phe
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 130 135 140
 Pro Arg Ile Ser Asp Val Asp Ile Gln Thr Ser Arg Gln Arg Ile Ser
 145 150 155 160
 Ala Phe Leu Ser Met Ser Thr Ala Tyr Glu Leu Leu Pro Glu Ser Gly
 165 170 175
 Lys Val Val Thr Leu Asp Val Asp Leu Pro Val Lys Gln Ala Phe His
 180 185 190
 Ile Leu His Glu Gln Gly Ile Pro Ile Ala Pro Leu Trp Asp Ile Cys
 195 200 205
 Lys Gly Gln Phe Val Gly Val Leu Ser Ala Leu Asp Phe Ile Leu Ile
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 Leu Arg Glu Leu Gly Asn His Gly Ser Asn Leu Thr Glu Glu Glu Leu
 225 230 235 240
 Glu Thr His Thr Ile Ser Ala Trp Lys Gly Gly Lys Trp Thr Gly Phe
 245 250 255
 Thr Gln Cys Phe Ile Arg Ala Gly Pro Tyr Asp Asn Leu Lys Glu Ile
 260 265 270
 Ala Val Lys Ile Leu Gln His Gly Ile Ser Thr Val Pro Ile Ile His
 275 280 285
 Ser Glu Asp Gly Ser Phe Pro Gln Leu Leu His Leu Ala Ser Leu Ser
 290 295 300
 Gly Ile Leu Lys Cys Ile Cys Arg Tyr Phe Arg Asn Cys Ser Ser Ser
 305 310 315 320
 Leu Pro Ile Leu Gln Leu Pro Ile Cys Ala Ile Pro Val Gly Thr Trp
 325 330 335
 Val Pro Lys Ile Gly Glu Ser Asn Arg Arg Pro Leu Ala Met Leu Arg
 340 345 350
 Pro Asn Ala Ser Leu Thr Ser Ala Leu Asn Leu Leu Val Gln Ala Gln
 355 360 365
 Val Ser Ser Ile Pro Ile Val Asp Asp Ser Asp Ser Leu Leu Asp Ile
 370 375 380
 Tyr Cys Arg Ser Asp Ile Thr Ala Leu Ala Lys Asp Arg Thr Tyr Thr
 385 390 395 400
 His Ile Asn Leu Asp Glu Met Thr Val His Gln Ala Leu Gln Leu Gly
 405 410 415
 Gln Asp Ser Tyr Asn Thr Tyr Glu Leu Ser Cys Gln Arg Cys Gln Met
 420 425 430

Cys Leu Arg Thr Asp Ser Leu His Lys Val Met Glu Arg Leu Ala Ser
 435 440 445

Pro Gly Val Arg Arg Leu Val Ile Val Glu Ala Gly Ser Lys Arg Val
 450 455 460

Glu Gly Ile Ile Ala Leu Ser Asp Ile Phe Asn Phe Phe Leu Gly Tyr
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Asn Ser

<210> 9
 <211> 2538
 <212> DNA
 <213> Glycine max

<400> 9

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<211> 492

<212> PRT

<213> Glycine max

<400> 10

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Arg Ser Val Phe Leu Ser Gly Ser Phe Thr Arg Trp Leu Glu Leu Leu
 35 40 45

Pro Met Ser Pro Val Glu Gly Cys Pro Thr Val Phe Gln Val Ile Tyr
 50 55 60

Asn Leu Pro Pro Gly Tyr His Gln Tyr Lys Phe Phe Val Asp Gly Glu
 65 70 75 80

Trp Arg His Asp Glu His Gln Pro Tyr Val Pro Gly Glu Tyr Gly Ile
 85 90 95

Val Asn Thr Val Leu Leu Ala Thr Asp Pro Asn Tyr Met Pro Val Leu
 100 105 110

Pro Pro Asp Val Ala Ser Gly Asn Ser Met Asp Val Asp Asn Asp Ala
 115 120 125

Phe Arg Arg Met Ala Arg Leu Thr Asp Gly Thr Leu Ser Glu Val Leu
 130 135 140

Pro Arg Ile Ser Asp Thr Asp Val Gln Ile Ser Arg Gln Arg Ile Ser
 145 150 155 160

Ala Phe Leu Ser Ser His Thr Ala Tyr Glu Leu Leu Pro Glu Ser Gly
 165 170 175

Lys Val Val Ala Leu Asp Val Asp Leu Pro Val Lys Gln Ala Phe His
 180 185 190

Ile Leu His Glu Gln Gly Val Phe Met Ala Pro Leu Trp Asp Phe Cys
 195 200 205

Lys Gly Gln Phe Val Gly Val Leu Ser Ala Ser Asp Phe Ile Leu Ile
 210 215 220

Leu Arg Glu Leu Gly Asn His Gly Ser Asn Leu Thr Glu Glu Glu Leu
 225 230 235 240

Glu Thr His Thr Ile Ser Ala Trp Lys Glu Gly Lys Ser Tyr Leu Asn
 245 250 255

Arg Gln Asn Asn Gly His Gly Thr Ala Phe Ser Arg Cys Phe Ile His
 260 265 270

Ala Gly Pro Tyr Asp Asn Leu Lys Asp Ile Ala Met Lys Ile Leu Gln
275 280 285

Lys Glu Val Ser Thr Val Pro Ile Ile His Ser Ser Ser Glu Asp Ala
290 295 300

Ser Phe Pro Gln Leu Leu His Leu Ala Ser Leu Ser Gly Ile Leu Lys
305 310 315 320

Cys Ile Cys Arg Tyr Phe Arg His Cys Ser Ser Ser Leu Pro Val Leu
325 330 335

Gln Leu Pro Ile Cys Ala Ile Pro Val Gly Thr Trp Val Pro Lys Ile
340 345 350

Gly Glu Ser Asn Arg Arg Pro Leu Ala Met Leu Arg Pro Thr Ala Ser
355 360 365

Leu Ala Ser Ala Leu Asn Leu Leu Val Gln Ala Gln Val Ser Ser Ile
370 375 380

Pro Ile Val Asp Asp Asn Asp Ser Leu Leu Asp Ile Tyr Cys Arg Ser
385 390 395 400

Asp Ile Thr Ala Leu Ala Lys Asn Arg Ala Tyr Thr His Ile Asn Leu
405 410 415

Asp Glu Met Thr Val His Gln Ala Leu Gln Leu Gly Gln Asp Ala Tyr
420 425 430

Ser Pro Tyr Glu Leu Arg Ser Gln Arg Cys Gln Met Cys Leu Arg Ser
435 440 445

Asp Pro Leu His Lys Val Met Glu Arg Leu Ala Asn Pro Gly Val Arg
450 455 460

Arg Leu Val Ile Val Glu Ala Gly Ser Lys Arg Val Glu Gly Ile Val
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Ser Leu Ser Asp Ile Phe Lys Phe Phe Ile Gly Gly
485 490

<210> 11

<211> 1266

<212> DNA

<213> Glycine max

<400> 11

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aacttatggg gacctacaaa ccgcaaatat ggacactccg gtgatcgacg tcatacatat 660
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<210> 12
<211> 318
<212> PRT
<213> Glycine max

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Arg Leu Ile Ile Leu Asn Thr Asp Leu Leu Val Lys Lys Ser Leu Thr
      35                      40                      45

Ile Leu Leu Gln Asn Gly Ile Val Ser Ala Pro Leu Trp Asp Ser His
      50                      55                      60

Thr Ser Thr Phe Ala Gly Leu Leu Thr Thr Ser Asp Tyr Ile Asn Val
      65                      70                      75                      80

Ile Gln Tyr Tyr Trp Gln Asn Pro Glu Ala Leu Asn Gln Ile Asp Gln
      85                      90                      95

Phe Lys Leu Ser Ser Leu Arg Asp Ile Glu Lys Ala Ile Gly Val Leu
      100                      105                      110

Pro Leu Glu Thr Val Ser Val His Pro Ala Arg Pro Leu Tyr Asp Ala
      115                      120                      125

Cys Arg Glu Met Leu Gln Thr Arg Ala Arg Arg Ile Pro Leu Val Asp
      130                      135                      140

Val Asp Asp Glu Thr Gly Lys Glu Met Val Val Ser Val Ile Thr Gln
      145                      150                      155                      160

Tyr Arg Ile Leu Lys Phe Ile Ser Val Asn Val Glu Glu Thr Glu Phe
      165                      170                      175

Leu Lys Lys Ser Val Ser Asp Ile Lys Leu Gly Thr Tyr Gly Asp Leu
      180                      185                      190

Gln Thr Ala Asn Met Asp Thr Pro Val Ile Asp Val Ile His Met Met
      195                      200                      205

Val Lys His Ser Ile Ser Ser Val Pro Ile Val Asp Lys Asp Ser Arg
      210                      215                      220

Val Leu Asn Leu Phe Glu Ala Val Asp Val Ile Thr Ile Ile Lys Gly

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225	230	235	240
Gly Val Tyr Asp	Gly Leu Thr Leu Thr	Val Gly Glu Ala Leu Ala Asn	
	245	250	255
Arg Ala Glu Asp	Phe Ala Gly Ile Tyr Thr Cys Ser Glu Glu Asp Arg		
	260	265	270
Leu Asp Ser Ile Phe Asp Thr Ile Arg Lys Ser Arg Val His Arg Leu			
	275	280	285
Val Val Ile Asp Glu Glu Gln His Leu Lys Gly Val Ile Ser Leu Ser			
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Asp Ile Leu Gln Tyr Val Leu Leu His Gly Glu Asp Asp Asp			
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<210> 13
 <211> 1632
 <212> DNA
 <213> Triticum aestivum

<400> 13

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aaaaaaaaaa	aa					1632

<210> 14
 <211> 442
 <212> PRT
 <213> Triticum aestivum

<400> 14

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 20 25 30

Arg His Asp Glu Gly Gln Pro Thr Ile Thr Gly Glu Tyr Gly Val Val
 35 40 45

Asn Thr Leu Tyr Leu Thr Arg Glu Phe Asp His Ile Asn Thr Val Leu
 50 55 60

Ser Pro Thr Thr Pro Gly Ser Arg Met Asp Val Asp Ser Asp Ser Phe
 65 70 75 80

Gln Arg Met Gly Ser Leu Ser Asp Gly Ala Leu Gln Glu Gly Ser Pro
 85 90 95

Arg Ile Ser Glu Ala Ala Ile Gln Ile Ser Arg Cys Arg Val Ala Glu
 100 105 110

Tyr Leu Asn Ala His Thr Gly Tyr Asp Leu Leu Pro Asp Ser Gly Lys
 115 120 125

Val Ile Ala Leu Asp Ile Asn Leu Pro Val Lys Gln Ser Phe His Ile
 130 135 140

Leu His Glu Gln Gly Ile Pro Val Ala Pro Leu Trp Asp Ser Phe Arg
 145 150 155 160

Gly Gln Phe Val Gly Leu Leu Ser Pro Leu Asp Phe Ile Leu Ile Leu
 165 170 175

Arg Glu Leu Glu Thr His Gly Ser Asn Leu Thr Glu Glu Gln Leu Glu
 180 185 190

Thr His Thr Ile Ser Ala Trp Lys Glu Ala Lys Arg Gln Thr Tyr Gly
 195 200 205

Arg Asn Asp Gly Gln Leu Arg Ser Asn Gln His Leu Val His Ala Thr
 210 215 220

Pro Tyr Glu Ser Leu Arg Gly Ile Ala Met Lys Ile Leu Glu Thr Gly
 225 230 235 240

Ile Ser Thr Val Pro Ile Ile Tyr Ser Ser Ser Ser Asp Gly Ser Phe
 245 250 255

Pro Gln Leu Leu His Leu Ala Ser Leu Ser Gly Ile Leu Lys Cys Ile
 260 265 270

Cys Arg Tyr Phe Lys Asn Ser Thr Gly Ser Leu Pro Ile Leu Asn Gln
 275 280 285

Pro Val Cys Ser Ile Pro Leu Gly Thr Trp Val Pro Lys Ile Gly Glu
 290 295 300

Pro Asn Gly His Pro Leu Ala Met Leu Arg Pro Asn Thr Ser Leu Ser
 305 310 315 320

Ser Ala Leu Asn Leu Leu Val Gln Ala Gly Val Ser Ser Ile Pro Ile
 325 330 335

Val Asp Asp Asn Asp Ser Leu Ile Asp Thr Tyr Ser Arg Ser Asp Ile
 340 345 350

Thr Ala Leu Ala Lys Asp Lys Val Tyr Thr His Ile Arg Leu Asp Glu
 355 360 365

Met Thr Ile His Gln Ala Leu Gln Leu Gly Gln Asp Ala Asn Ser Pro
 370 375 380

Phe Gly Leu Phe Asn Gly Gln Arg Cys Gln Met Cys Leu Gln Ser Asp
 385 390 395 400

Pro Leu Leu Lys Val Met Glu Arg Leu Ala Asn Pro Gly Val Arg Arg
 405 410 415

Val Phe Ile Val Glu Ala Gly Ser Lys Arg Val Glu Gly Val Ile Ser
 420 425 430

Leu Ser Asp Ile Phe Lys Leu Leu Leu Ser
 435 440

<210> 15
 <211> 538
 <212> DNA
 <213> Zea mays

<220>
 <221> unsure
 <222> (494)
 <223> n = A, C, G or T

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 gcgtcaacct accatatctg gggagtttgg catagttaac acactttact tgacaaggga 180
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 taatttacct gtgaagcaat cattccatat tctccatgaa caggggattc ctgtagctcc 480
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<210> 16
 <211> 59
 <212> PRT
 <213> Zea mays

<220>
 <221> UNSURE
 <222> (50)
 <223> Xaa = ANY AMINO ACID

<400> 16
 Val Ser Glu Tyr Leu Asn Leu His Thr Cys Tyr Asp Leu Leu Pro Asp
 1 5 10 15

Ser Gly Lys Val Ile Ala Leu Asp Ile Asn Leu Pro Val Lys Gln Ser
 20 25 30

Phe His Ile Leu His Glu Gln Gly Ile Pro Val Ala Pro Leu Trp Asp
 35 40 45

Ser Xaa Lys Gly Gln Phe Gly Gly Pro Leu Ser
 50 55

<210> 17
 <211> 542
 <212> DNA
 <213> Oryza sativa

<220>
 <221> unsure
 <222> (248)
 <223> n = A, C, G or T

<220>
 <221> unsure
 <222> (534)
 <223> n = A, C, G or T

<220>
 <221> unsure
 <222> (539)
 <223> n = A, C, G or T

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 cacatactcc ggaggtttgg acattgtcac tcagggtgcg ggatctcttt taacaagaca 480
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 gg 542

<210> 18
 <211> 58
 <212> PRT
 <213> Oryza sativa

<220>
 <221> UNSURE
 <222> (23)
 <223> Xaa = ANY AMINO ACID

<400> 18
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 1 5 10 15

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Ala Leu Leu Asp Val Tyr Ser Leu Ser Asp Ile Met Ala Leu Gly Lys
 35 40 45

Asn Asp Val Thr Leu Val Leu Ser Leu Asn
 50 55

<210> .19
 <211> 498
 <212> DNA
 <213> Glycine max

<400> 19
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 gacgggaaaa gagatggt 498

<210> 20
 <211> 122
 <212> PRT
 <213> Glycine max

<400> 20
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 Asp Leu Leu Val Lys Lys Ser Leu Thr Ile Leu Leu Gln Asn Gly Ile
 35 40 45
 Val Ser Ala Pro Leu Trp Asp Ser His Thr Ser Thr Phe Ala Gly Leu
 50 55 60
 Leu Thr Thr Ser Asp Tyr Ile Asn Val Ile Gln Tyr Tyr Trp Gln Asn
 65 70 75 80
 Pro Glu Ala Leu Asn Gln Ile Asp Gln Phe Lys Leu Ser Ser Leu Arg
 85 90 95
 Asp Ile Glu Lys Ala Ile Gly Val Leu Pro Leu Glu Thr Val Ser Val
 100 105 110
 His Pro Ala Arg Pro Leu Tyr Asp Ala Cys
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ggatcggttc cgcagctggt gcatcttgca tccctttcag gaattttgaa atgtatctgt 180
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ccgctggggg acctgggggt ccaaaaaatg ggtgaaccaa atggcatcca ttgggtatgt 300
tgccggccta atacatctct taactctgcc cttaacttgt tgggtcaagc tggganttat 360
tcaataccca ttggtgggat gnataacgac cccttatttg acacataccc aagaagtgc 420
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gctgcaactc gggcaagacc gaatcacttt gggg 514
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<211> 77

<212> PRT

<213> Triticum aestivum

<400> 22

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Leu Val His Ala Thr Pro Tyr Glu Ser Leu Arg Gly Ile Ala Met Lys
 1             5             10             15
```

```
Ile Leu Glu Thr Gly Ile Ser Thr Val Pro Ile Ile Tyr Ser Ser Ser
      20             25             30
```

```
Ser Asp Gly Ser Phe Pro Gln Leu Leu His Leu Ala Ser Leu Ser Gly
      35             40             45
```

```
Ile Leu Lys Cys Ile Cys Arg Tyr Phe Lys Asn Ser Thr Gly Ser Leu
      50             55             60
```

```
Pro Ile Leu Asn Gln Pro Val Cys Ser Ile Pro Leu Gly
      65             70             75
```